

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1-29. (Cancelled)

30. (Currently Amended) Support structure for a retractable and extendable flap (12) associated with an object (14), surrounded by a flowing fluid, ~~characterized in that~~ wherein the support structure (10) is a shell profile (16) that takes at least part of the forces acting on the flap (12) ~~[(26)]~~ and transmits them to the object (14), that has a fluid/aerodynamic low-drag form on the outer side and on the inner side forms a chamber (18) for at least partially receiving a device (20) for retracting and extending the flap (12).

31. (Currently Amended) Support structure in accordance with claim 30, ~~characterized in that~~ wherein the shell profile (16), that has a fluid/ aerodynamic form on the outer side, is of two part-construction.

32. (Currently Amended) Support structure in accordance with claim 30, ~~characterized in that~~ wherein the shell profile (16), that has a fluid/aerodynamic form on the outer side, includes a front shell (22) and a rear shell (24) that are arranged one behind the other against the direction of flow (arrow 26) of the fluid.

33. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and the rear shell (24) of the shell profile (16), that has a ~~fluid!~~ ~~aerodynamic~~ fluid/aerodynamic form on the outer side, form[[s]] a fluidic unit without ~~any additional~~ fluid/aerodynamic flow resistance being induced by separation of the front shell (22) and the rear shell (24) when the flap (12) is retracted.

34. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and the rear shell (24) of the shell profile (16), that has a ~~fluid!~~ ~~aerodynamic~~ fluid/aerodynamic form on the outer side, ~~can move~~ are movable relative to each other corresponding to the retracted or extended state of the flap (12).

35. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, ~~[[can be]]~~ is attached to the object (14) and that the rear shell (24) ~~[[can be]]~~ is attached to the flap (12).

36. (Currently Amended) Support structure in accordance with claim 35, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a ~~fluid!~~ ~~aerodynamic~~ fluid/aerodynamic form on the outer side, ~~[[can be]]~~ is/are attached to the object

(14) and/or the flap (12) by means of discrete or continuous fittings ~~or similar attaching elements~~.

37. (Currently Amended) Support structure in accordance with claim 35, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, ~~[[can be]]~~ is/are attached on the object (14) and/or on the flap (12) by means of fittings or ~~similar~~ attaching elements of linear ~~[[form]]~~ and/or flat shape design.

38. (Currently Amended) Support structure in accordance with claim 35, ~~characterized in that~~ wherein the fittings or ~~similar~~ attaching elements are arranged within the chamber (18) for at least partially receiving the device (20) for retracting and extending the flap (12).

39. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, ~~is/are~~ of single-or multicell construction.

40. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, ~~is/are~~ completely or partially of sandwich construction and/or composite construction.

41. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, is/are provided with stiffeners, ~~particularly longitudinal and/or transverse stiffeners.~~

42. (Currently Amended) Support structure in accordance with claim 41, ~~characterized in that~~ wherein the stiffeners, ~~particularly the longitudinal and/or transverse stiffeners,~~ are arranged within the chamber (18) for at least partially receiving the device (20) for retracting and extending the flap (12).

43. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, ~~consist(s) essentially of~~ comprise(s) a U-shaped outer shell (34) having two side walls (42) and of the side (42) and/or inner (46) and/or intermediate walls (50) contained by the outer shell (34) and also, if necessary, a closing cover (36).

44. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, is/are provided with at least one opening (38), that can be covered by a cover (40), for inspection, servicing and repair purposes.

45. (Currently Amended) Support structure in accordance with 32, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, each consist(s) completely or partially of plastic, ~~particularly fiber reinforced plastic~~, and/or fiber composite material and/or metal material, ~~particularly steel, titanium, aluminum or an alloy of same~~, and/or a combination of these.

46. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and/or rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, is/are provided with a coating that has an electrical conducting and/or antistatic effect.

47. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, is/are provided with a coating that is resistant to shock and impact stresses.

48. (Currently Amended) Support structure in accordance with claim 32, ~~characterized in that~~ wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, is/are provided with a coating that makes surface changes or damage visible.

49. (Currently Amended) Support structure in accordance with claim 32 ~~[[30]]~~, ~~characterized in that~~ wherein a device (20) fitted in the chamber (18) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, is for extending and retracting the flap (12), and includes a kinematic guiding device (52) and at least partially a driving device (54).

50. (Currently Amended) Support structure in accordance with claim 49, ~~characterized in that~~ wherein the kinematic guiding device (52) includes:

- a guide rail (56) associated with the front shell (22), ~~and~~ [[and]]
- a roller carriage (58) that moves on the guide rail (56),
- a connecting element (60) that is [[can be]] attached to the flap (12) and is attached to the roller carriage (58), and
- a control lever (64) that is [[can be]] swivel-connected to the front shell (22) and the flap (12).

51. (Currently Amended) Support structure in accordance with claim 50, ~~characterized in that~~ wherein the guide rail (56) associated with the front shell (22) is detachably connected to the front shell (22).

52. (Currently Amended) Support structure in accordance with claim 50, ~~characterized in that~~ wherein the guide rail (56) associated with the front shell (22) ~~can be~~ is connected to the front rail by means of a mechanical or form fit.

53. (Currently Amended) Support structure in accordance with claim 50, ~~characterized in that~~ wherein the guide rail (56) associated with the front shell (22) is made of metal, ~~particularly a high quality material or wear resistant steel, preferably of titanium or a titanium alloy.~~

54. (Currently Amended) Support structure in accordance with claim 50, ~~characterized in that~~ wherein the driving device (54) includes a driving element (70) and a drive rod (72) that ~~[[can be]]~~ is swivel-connected to the driving element (70) and the connecting element (60) of the flap (12).

55. (Currently Amended) Support structure in accordance with claim 54, ~~characterized in that~~ wherein the driving element (70) of the driving ~~device~~ device (54) is mounted in the front shell (22) of the shell profile (16).

56. (Currently Amended) Support structure in accordance with claim 54, ~~characterized in that~~ wherein the driving element (70) of the driving ~~device~~ device (54) ~~[[can be]]~~ is mounted on the object (14) surrounded by the flowing fluid.

57. (Currently Amended) Support structure in accordance with claim 30, ~~characterized in that wherein~~ at least one further device, ~~in particular a fuel jettison system or a ram air turbine, can be~~ is installed within the chamber (18) to at least partially receive the device (20) for retracting and extending the flap (12).

58. (Currently Amended) Use of a support structure (10) in accordance with claim 30 for a landing flap or trailing-edge flap mounted on a mainplane (14) of an aircraft or a ~~similar~~ flap of a submarine, aerospace aircraft or a flexible flow guidance device in a water/wind tunnel.

59. (New) Support structure in accordance with claim 41, wherein the stiffeners are longitudinal and/or transverse stiffeners.

60. (New) Support structure in accordance with claim 59, wherein the longitudinal and/or transverse stiffeners are arranged within the chamber (18) for at least partially receiving the device (20) for retracting and extending the flap (12).

61. (New) Support structure in accordance with claim 43, wherein the outer shell (34) contains one or more inner walls (46) and/or an intermediate wall (50).

62. (New) Support structure in accordance with claim 43, wherein the front shell (22) and/or the rear shell (24) of the shell profile (16), that has a fluid/aerodynamic form on the outer side, further comprise(s) a closing cover (36) that closes the outer shell (34).

63. (New) Support structure in accordance with 45, wherein the plastic is a fiber-reinforced plastic.

64. (New) Support structure in accordance with 45, wherein the metal material is steel, titanium, aluminum or an alloy of comprising at least one of these.

65. (New) Support structure in accordance with claim 53, wherein the metal is a high-quality material or wear-resistant steel.

66. (New) Support structure in accordance with claim 53, wherein the metal is titanium or a titanium alloy.

67. (New) Support structure in accordance with claim 53, wherein the at least one further device is a fuel jettison system or a ram air turbine.